PAUL, WEISS, RIFKIND, WHARTON & GARRISON
1615 L STREET, NW WASHINGTON, DC 20036-5694

TELEPHONE (202) 223-7300
FACSIMILE (202) 223-7420

1285 AVENUE OF THE AMERICAS
NEW YORK, NY 10019-6064

199, BOULEVARD SAINT-GERMAIN
75007 PARIS, FRANCE

AKASAKA TWIN TOWER
17-22, AKASAKA 2-CHOME
MINATO-KU, TOKYO 107, JAPAN

SUITE 1910 SCITE TOWER
22 JIANGUOMENWAI DAJIE
BEIJING, 100004
PEOPLE'S REPUBLIC OF CHINA

13TH FLOOR, HONG KONG CLUB BUILDING
3A CHATER ROAD CENTRAL, HONG KONG

EX PARTE OR LATE FILED

JEFFREY H. OLSON
COMMUNICATIONS COUNSEL
(202) 223-7326

November 3, 1998

Via Hand Delivery

Magalie Roman Salas, Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: Ex Parte CC Docket No. 98-146

Dear Ms. Salas:

On November 2, 1998, Herve Sorre of SkyBridge L.P.("SkyBridge"), David Owen of Alcatel USA, and the undersigned, of Paul, Weiss, Rifkind, Wharton & Garrison, met with Stagg Newman and Johnson Garrett of the Office of Plans and Policy; Jennifer Fabian, Jonathan Askin and Daniel Shiman of the Common Carrier Bureau; and Kent Nilsson of the Office of Engineering and Technology, for the purpose of discussing issues relating to the above-referenced proceeding. At the meeting, copies of the attached materials were distributed, along with copies of SkyBridge's comments and reply comments filed in the instant proceeding.

Please contact the undersigned if you have any questions.

Respectfully submitted,

Jeffrey H. Olson
Attorney for SkyBridge L.P.

cc: See attached list

Stagg Newman, Office of Plans and Policy
Johnson Garrett, Office of Plans and Policy
Jennifer Fabian, Common Carrier Bureau
Jonathan Askin, Common Carrier Bureau
Daniel Shiman, Common Carrier Bureau
Kent Nilsson, Office of Engineering and Technology

SkyBridge

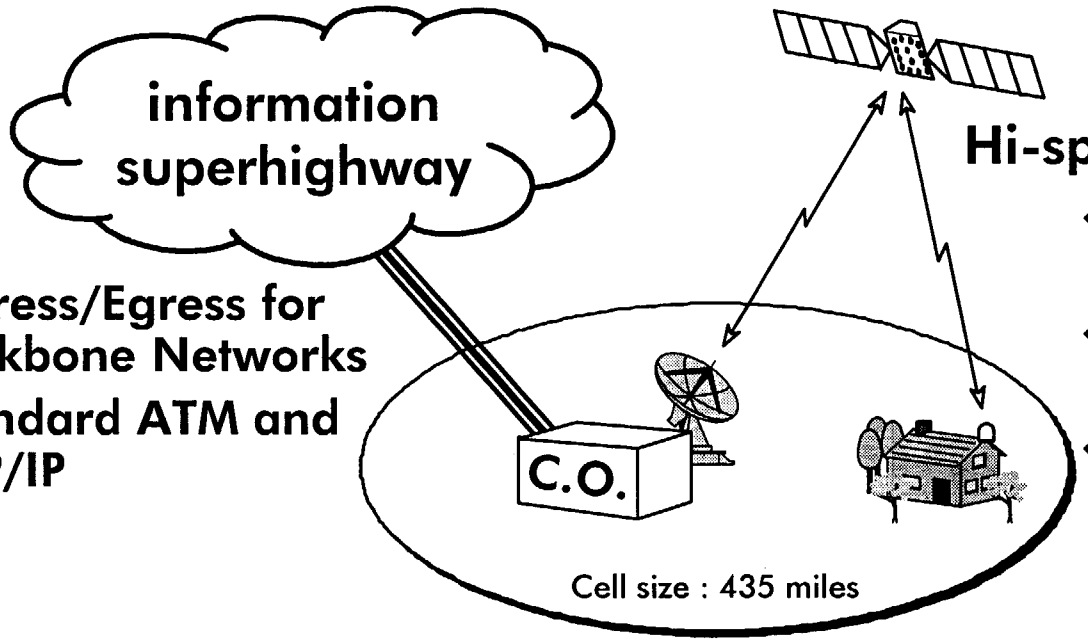
an Alcatel company

SkyBridge Positioning

SkyBridge
an Alcatel company

SkyBridge Positioning

Broadband Local Access by Satellite



- Ingress/Egress for Backbone Networks
- Standard ATM and TCP/IP

Hi-speed 2-way links

- 20 Mbps to residential customers
- 3-5 time as fast for businesses
- Rural and less-dense regions

The SkyBridge Solution :

- Overcome the "last mile" bottleneck
- Bandwidth-on-demand in the local loop
- Global coverage

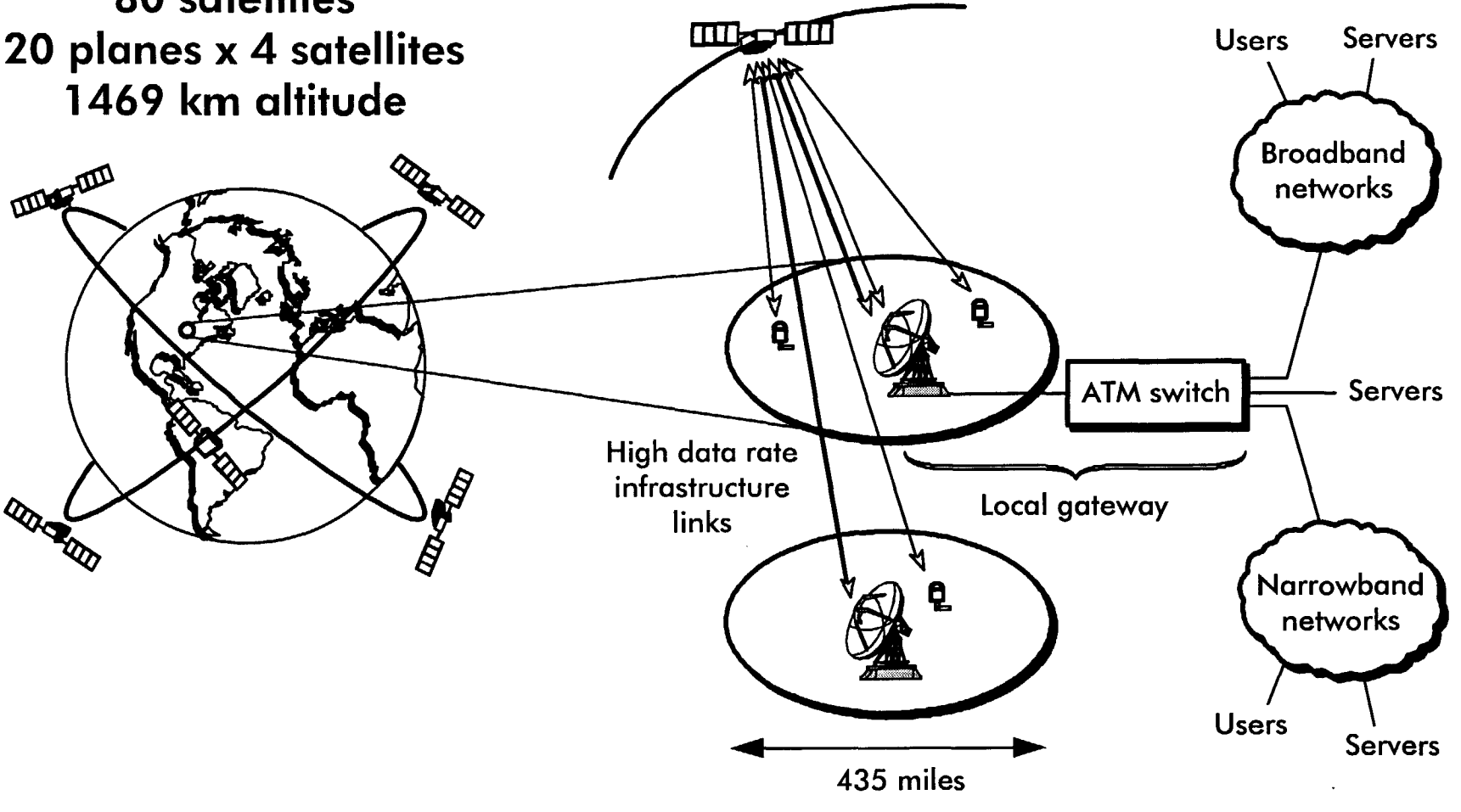
V17750W2

SkyBridge

an Alcatel company

SkyBridge Positioning

80 satellites
20 planes x 4 satellites
1469 km altitude



V17750W3

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SkyBridge Positioning

Alternative Terrestrial Access Broadband Technologies

Technology	Performances	Infrastructure	Constraints
Fiber	155 Mbps	Limited deployment	▼ Expensive to deploy
ADSL	up to 640 kbps upstream up to 6 Mbps downstream	Uses existing copper pair local loop infrastructure	▼ Data rates depends on distances from local exchange ▼ Requires high quality twisted pair
Cable Modem	up to 3 Mbps upstream up to 40 Mbps downstream	Uses existing HFC infrastructure	▼ Expensive to upgrade ▼ Ingress noise in the return path ▼ No guaranteed bandwidth : Performance decrease as number of users increases
Terrestrial Wireless	up to 2 Mbps upstream up to 15 Mbps downstream	▼ Flexible deployment ▼ Small cells	▼ Require line-of-sight to base station ▼ Subject to rain attenuation

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SkyBridge Positioning

Satellites Systems Overview

The number of satellite systems currently active or planned cover a broad range of applications, spectrum and frequencies.

SATELLITE SYSTEM OVERVIEW

System Type	Frequency Bands	Applications	Terminal Type/Size	Examples
Fixed Satellite Service	C and Ku	Video delivery, VSAT, News gathering, Telephony	1 meter and larger earth station	Hughes Galaxy, GE American, Loral Skynet, Intelsat
Mobile Satellite (GEO)	L and S	Voice and low speed data to mobile terminals	Laptop computer / antenna-mounted but mobile	Inmarsat, AMSC/TMI, ACeS
Big LEO	L and S	Cellular telephony, data, paging	Cellular phone and pagers, fixed phone booth	Iridium, Globalstar, ICO
Little LEO	UHF / VHF	Position location, tracking, messaging	"As small as a pack of cigarettes" and omnidirectional	Orbcomm, E-Sat
Direct Broadcast Satellite (1 Way)	Ku	Direct-to-home video/audio	0.3-0.6 meter fixed earth station	Direct TV, Echostar, USSB, Astra
Broadband GEO (2 Way)	Ka and Ku	Internet access, voice, video, data	65cm, fixed	Hughes Spaceway, Loral Cyberstar, lockheed Astrolink
Broadband LEO (2 Way)	Ka and Ku	Internet access, voice, video, data, video conferencing	Dual 20 cm, tracking antennas, fixed	Skybridge, Teledesic

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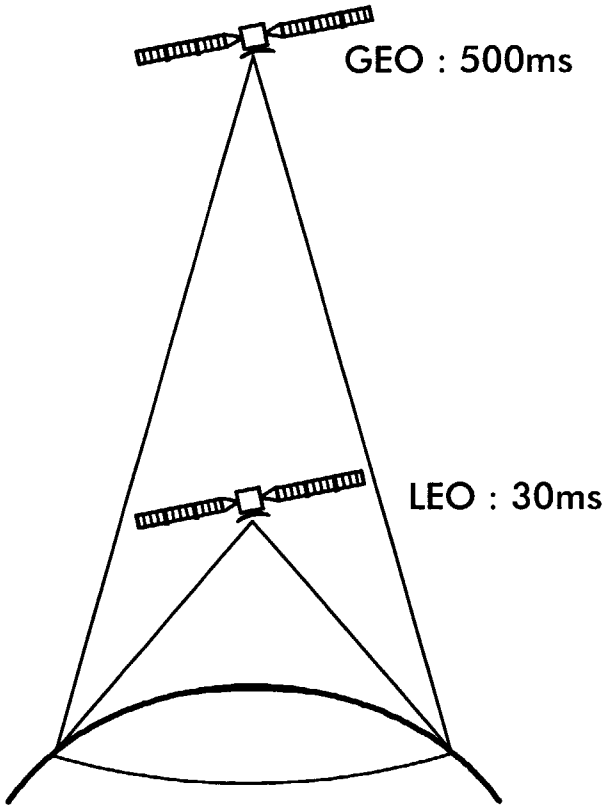
SkyBridge Positioning



Round-trip propagation time

- Interactive services require very short response times
- LEO short propagation time provides same characteristics as terrestrial solutions
  - → Possible reuse of communication protocols and applications developed for terrestrial networks
- Global coverage

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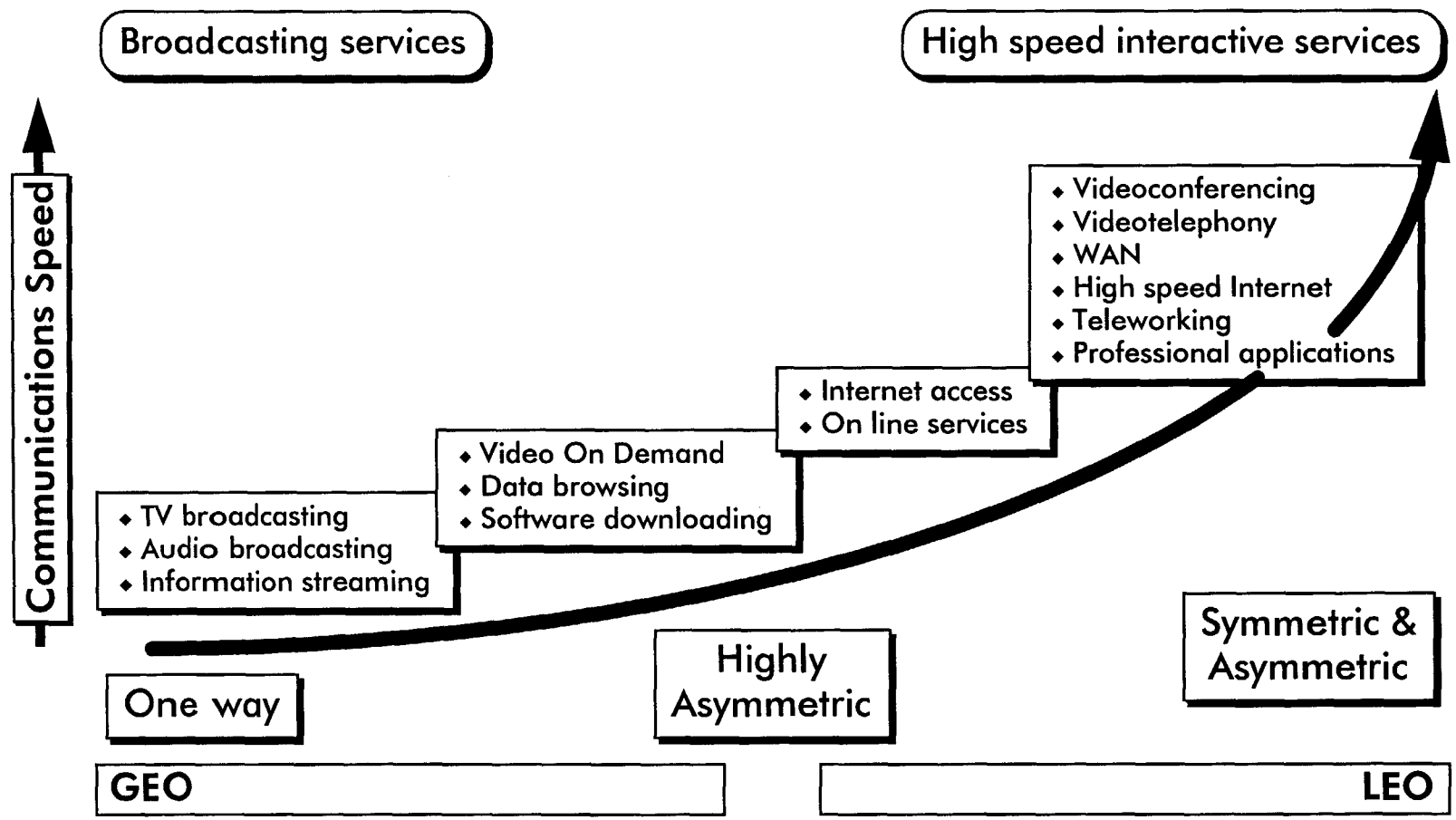
SkyBridge Positioning

The potential of integrating the GEO based multi-point broadcasting capabilities with the flexible real-time point-to-point advantage of a LEO solution is being developed by the SkyBridge / Cyberstar teams



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SkyBridge Positioning

Broadband Satellites Systems Overview

	Broadband Satellites					
	Cyberstar	Astrolink	Spaceway	Celestri	Teledesic	SkyBridge
Backers	Loral	Lockheed	GM-Hughes	Motorola	Bill Gates, Craig Mc Caw, Boeing, Motorola	Alcatel (General Partner), Loral MELCO, Sharp, Spar, Toshiba, SRIW, CNES, COMDEV
Use	Data, video	Data, video, rural telephony	data, multimedia	Voice, data, video-conferencing	Voice, data, video-conferencing	Voice, data, videoconferencing, multimedia
Altitude (miles)	22,300	22,300	22,300	875 and 22,300	855	911
Spectrum	Ku (initial) and Ka	Ka	Ka	Ka and also 40 - 50 GHz	Ka	Ku
Antenna Size (est.)	16 inches (initial Ku)	33-47 inches	26 inches	24 inches	10 inches	20 inches
Data Throughput	400 kbps (initial Ku); up to 30 Mbps (Ka)	Up to 9.6 Mbps	Up to 6 Mbps	Up to 155 Mbps transmit and receive	16 kbps-64 Mbps	16kbps multiple of 20 Mbps
User Terminal Cost (est.)	$800 (initial Ku) $1000 (Ka)	$1,000	$1,000	Starts at $750	$ 1,000	$700 (consumer)
System Cost (billions)	$1.6	$4	$3.5	$13	$9	$4.2
Operation Starts	1998 (Ku)	Late 2000	2000	2002	2003	2001
Number of Satellites	TBD for Ku; 3 likely for Ka	9	8 initialy	63 LEOs, 9 GEOs	288	80
Access Method	FDMA, TDMA	FDMA, TDMA	FDMA, TDMA	FDMA, TDMA	MF-TDMA, ATDM	CDMA
Intersatellite Communication	Undecided	Yes	Yes	Yes	Yes	No

Source : BYTE Magazine, Alcatel

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SkyBridge Opportunity

SkyBridge Provides . . .

- **Local loop solution for delivery of**
  - Two-way digital services (Internet, Multi-media, Voice, . . .)
- **Flexible and cost-effective :**
  - A few ¢ per MByte (1¢ for a 3-minute call at 64 kbps)
  - <$200 investment cost per subscriber for operators
- **Universal Service Capability**
- **Global Coverage :**
  - 200 Gbps worldwide
  - 20 million users
- **Service available 2001**

Residential user

up to 20 Mbps

Average 500 kbps

Business user

3 to 5 times as much

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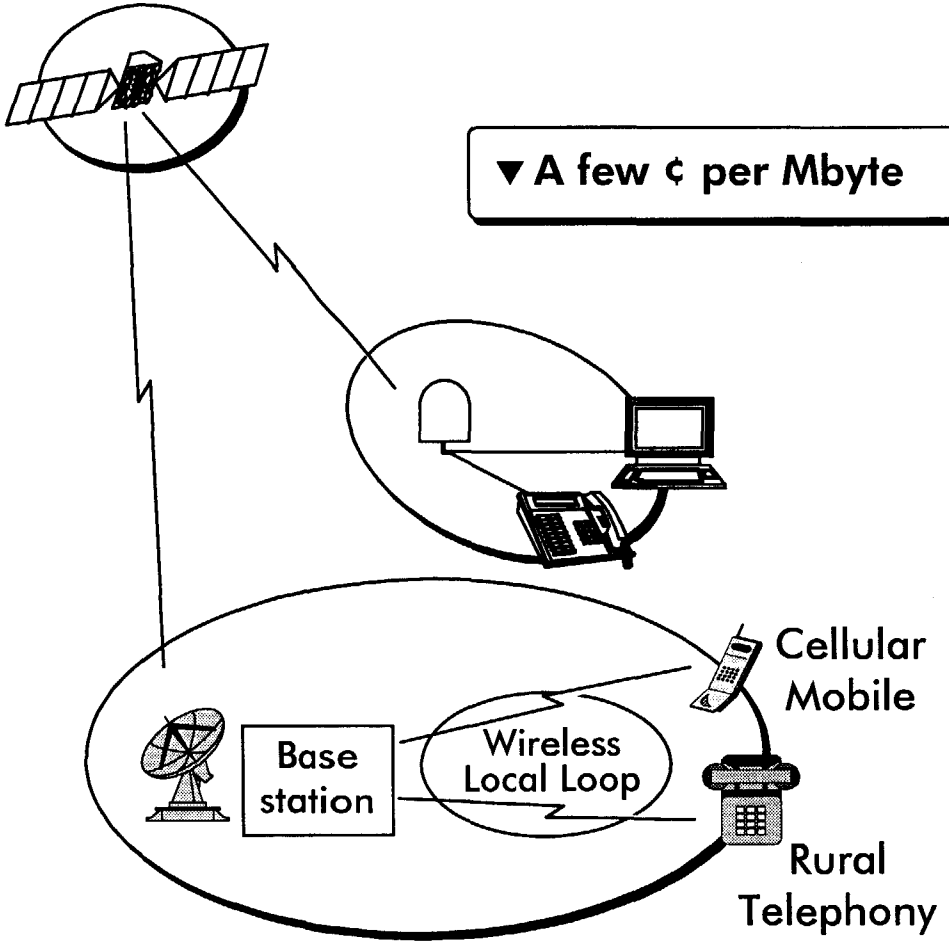
The SkyBridge Positioning

SkyBridge Service Delivery



▼ A few ¢ per Mbyte

Investment cost

▼ $300 (space segment + gateways)
<$200 to be invested by operators

▼ $700 terminal price

V17750W10

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SkyBridge Positioning

Cost-Effective Alternate Access

In-Region / Incumbent

- "Fill-in" : where broadband terrestrial coverage is limited
- "Stop-gap" : in anticipation of terrestrial build-out
- Flexibility to meet changing traffic patterns
- Universal service
- Cost independent of user location

Out-of-Region / New Entrants

- Where unbundled local loop is not economically available
- Where interconnect rates are too high
- Where alternatives for onward delivery from backbone nodes are limited
- Ubiquitous access
- Instantaneous deployment
- Cost independent of user location

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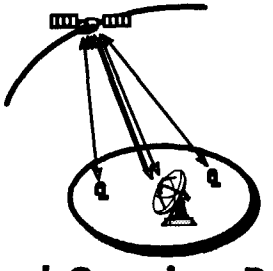
SkyBridge Positioning

Global

SkyBridge L.P.

Local



Regional Service Providers

- Constellation of 80 LEO satellites
- Service launch : 2001
- Provision of constellation capacity to Regional Service Providers on a wholesale basis ("Carrier's carrier")
- Worldwide coverage
- 20 million users worldwide

- Local Operators :
  - Gateway operations
  - Service provision
- 200 gateways worldwide :
  - 700 km / 435 miles gateway cell-size
- Local Operator "owns" the customer
- Complementary to terrestrial infrastructure
- No by-pass

V17750W12